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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,383

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Ronald Johannes Gelten

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LAHIVE & COCKFIELD, LLP
ONE POST OFFICE SQUARE
BOSTON, MA 02109-2127

EXAMINER

PATEL, ASHOK

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,383	Applicant(s) GELTEN ET AL.	
	Examiner Ashok Patel	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>08172005</u> . | 6) <input type="checkbox"/> Other: ____. |

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show (1) Figure 2c as described in the specification (page 9, second paragraph); (2) reference numeral d₂, as described at page 9, second paragraph). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant

will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figures 1, 2a, 2c, 3a, 3b, 3c, 5 etc. should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (See description of the drawings at pages 7 and 8). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Claims 3 and 5 are objected to because of the following informalities: In claim 3, line 2, the term "mate" needs to be corrected. In claim 5, line 2: the term, "composes" appears to be incorrect. Appropriate correction is required.

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4. Claims 3-6 and 8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 recites the plate shaped element provided with a "common aperture". However, dependent claim 3 recites the plate shaped element being a second type of plate-shaped element being provided with "a number of apertures". This limitation of claim 3 contradicts with claim 1. Similar situation occurs regarding "a plate-shaped element of the second type" limitation of the dependent claim 6.

5. Claims 3-6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3, lines 3-4: the term "the electrode" lacks proper antecedent basis. There are different electrodes recited in prior to the term "the electrode" in claims 3 and 1.

As to claim 6, the term "an electrode" at line 1 renders the claim vague since it can not be understood as to which electrode

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is being referred to. The entire limitation "an electrode provided with a plate-shaped element of the first type does not include a plate-shaped element of the second type" can not be understood clearly as to what it means.

As to claim 8, the term "the aperture" lacks proper antecedent basis.

Claims 4 and 5 are necessarily rejected since they depend upon claim 3.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al (USPN6674228).

Chen et al disclose applicant's claimed electron gun (Figures 3, 5) of the in-line type, including: cathodes (KR, KG, KB) for emitting electrons, which cathodes are juxtaposed in a

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first direction, and a main lens section including at least two electrodes (G3 and G4, as shown in Figure 3; G5 and G6, as shown in Figure 5) whereby a gap is provided between adjacent one of the electrodes, a gap-facing end of at least one of the electrodes including an electrode rim, characterized in that at least one of the electrodes includes a plate-shaped element 63 or 67, as shown in Figure 3, or 83 or 93, as shown in Figure 5) arranged inside the electrode, the element being provided with a (chain link shaped) common aperture for passing electrons from each cathode, a dimension of the aperture in a second direction being smaller than a cross-section diameter of the rim in the second direction, the second direction being perpendicular to both the first direction and a central axis of the electron gun.

As to claim 2, Chen et al disclose electron gun, wherein for the at least one of the electrodes, a distance along the central axis from the gap to the plate-shaped element is smaller than the dimension of the aperture in the second direction.

As to claim 3, Chen et al disclose the electron gun, wherein each of the electrodes of the main lens section includes at least one plate-shaped element 63 or 67 or 83 or 93) arranged on the inside of the electrode, the plate-shaped element being a first type of plate-shaped element being provided with a common aperture for passing electrons from each cathode, wherein the

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plate-shaped element in the at least one of the electrodes is a plate-shaped element of the first type.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 4-6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al, as applied to claim 1.

As to claims 4 and 5, Chen et al do not appear to disclose the electron gun, wherein the main lens section includes two electrodes (G3 and G4 or G5 and G6) defining, in operation, a bi-potential main lens, wherein an electrode receiving a lower voltage (Vdyn) is provided with a plate-shaped element of the second type (42), and an electrode (43) receiving a higher

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voltage (Va) is provided with a plate-shaped element of the first type.

However, providing appropriate different voltages to associated electrodes is common and known in the art for affecting applying suitable electric field to electron beams passing through the electrodes.

In light of this, applicant's claimed different voltages on different electrodes would have been obvious to one of ordinary skill in the art.

Alternatively, it would have been obvious to one of ordinary skill in the art to provide suitable voltages to corresponding electrodes, since it has been held that where general conditions of the claim are discovered in the prior art, discovering the optimum or workable voltages involves only routine skill in the art. In re Aller, 105 USPQ 233.

As to claim 6, Chen et al disclose an electrode (58 or 60 or 64 or 82 or 84 or 94) provided with a plate-shaped element of the first type not including a plate shaped element of the second type.

As to claim 9 and 10, Chen et al do not disclose dimension of the aperture in the first direction being at least 75% of a cross-section diameter of the electrode rim in the first direction or being at least 75% of a cross-section diameter of

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the electrode rim in the first direction, as claimed by applicant. Although Chen et al do not disclose the dimension of the aperture, as claimed by applicant, providing appropriate dimensions of the aperture would have been obvious to one of ordinary skill in the art for providing suitable dimension of the aperture for providing desired electric field effect to the beam passing through it.

Alternatively, it would have been obvious to one of ordinary skill in the art to provide suitable voltages to corresponding electrodes, since it has been held that where general conditions of the claim are discovered in the prior art, discovering the optimum or workable dimensions involves only routine skill in the art. In re Aller, 105 USPQ 233.

10. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 7 and 8, prior art of the record do not disclose the electron gun according to claim 1 (or claim 3), wherein the aperture in the plate-shaped element of the at least one of the electrodes is barrel shaped.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok Patel whose telephone number is 571-272-2456. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ashok Patel/
Ashok Patel
Primary Examiner
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